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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,701	07/03/2001	Naoki Ayai	017700-0149	8643
22428	7590	04/28/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			PIZIALI, ANDREW T	
			ART UNIT	PAPER NUMBER
			1771	
DATE MAILED: 04/28/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

<b>Office Action Summary</b>	<b>Application No.</b> 09/869,701	<b>Applicant(s)</b> AYAI ET AL.	
	<b>Examiner</b> Andrew T Piziali	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14 and 16-26 is/are pending in the application.  
     4a) Of the above claim(s) 20 and 22 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 14, 16-19 and 23-26 is/are rejected.  
 7) ☒ Claim(s) 21 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

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## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on 1/23/2004 has been entered. The examiner has withdrawn the claim objection of claim 1 based on the amendment to claim 1.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 14, 16-17, 23 and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,051,397 to Sato et al. (hereinafter referred to as Sato '397).

Regarding claims 14, 16-17, 23 and 25-26, Sato '397 discloses an oxide superconducting wire comprising a first wire, a second wire, and a junction formed by superposing the end portions of the wires with each other (see entire document including Figure 5 and column 3, lines 42-47). Sato '397 discloses a brazing filler metal (2) interposed between the superposed end portions of the first and second superconducting wires (Figure 5 and column 2, lines 49-54). Sato '397 also discloses that the bismuth oxide superconductor filaments may be coated with silver (5) (Figure 5 and column 5, lines 56-61).

Regarding claims 16-17, Sato '397 discloses that the superconducting wires are tape-like wires having rectangular cross sections that are bonded by superposing the wide surfaces of the tape-like surfaces (Figures 1 and 5, column 5, lines 13-24 and column 6, lines 25-30).

Regarding claim 23, Sato '397 discloses that the junction is at least partially coated with a metal (6) (Figure 5).

Regarding claim 25, Sato '397 discloses that the superconducting wires may contain a bismuth oxide superconductor (column 3, lines 12-15).

4. Claims 14, 16-19 and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,358,929 to Fujikami et al. (hereinafter referred to as Fujikami).

Regarding claims 14, 16-19 and 25-26, Fujikami discloses an oxide superconducting wire comprising a first wire, a second wire, and a junction formed by superposing the end portions of the wires with each other (see entire document including Figures 7, 10A, 10B, 16, 21, 25 and column 2, lines 6-16). Fujikami discloses a brazing filler metal interposed between the superposed end portions of the first and second superconducting wires (column 2, lines 6-16). Fujikami also discloses that bismuth oxide superconductor filaments may be coated with silver (column 2, lines 42-63 and column 4, lines 16-29).

Regarding claims 16-17, Fujikami discloses that the superconducting wires are tape-like wires having rectangular cross sections that are bonded by superposing the wide surfaces of the tape-like surfaces (Figures 7, 10A, 10B, 16, 21, 25).

Regarding claims 18, Fujikami discloses that at least one of the end portions may be worked so that the width of at least one of the end portions is reduced toward the end (Figure 25).

Regarding claim 19, Fujikami discloses that the junction may include an end portion having a V shape in plane (Figures 25).

Regarding claim 25, Fujikami discloses that the superconducting wires may contain a bismuth oxide superconductor (column 4, lines 16-29).

5. Claims 14, 16-19 and 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 5,949,131 to Sato et al. (hereinafter referred to as Sato '131).

Regarding claims 14, 16-19 and 23-26, Sato '131 discloses an oxide superconducting wire comprising a first wire, a second wire, and a junction formed by superposing the end portions of the wires with each other (see entire document including Figures 24-27, column 12, lines 42-63 and column 13, lines 18-43). Sato '131 discloses a brazing filler metal interposed between the superposed end portions of the first and second superconducting wires (paragraph bridging columns 4 and 5, and column 8, lines 1-13). Sato '131 also discloses that bismuth oxide superconductor filaments may be coated with silver (paragraph bridging columns 1 and 2).

Regarding claims 16-17, Sato '131 discloses that the superconducting wires are tape-like wires having rectangular cross sections that are bonded by superposing the wide surfaces of the tape-like surfaces (Figures 1-36 and paragraph bridging columns 1 and 2).

Regarding claims 18, Sato '131 discloses a junction so worked that the widths of the wires are reduced towards the ends (Figures 24-27).

Regarding claim 19, Sato '131 discloses that the junction includes an end portion having a V shape in plane (Figures 26-27 and column 13, lines 28-29).

Regarding claim 23, Sato '131 discloses that the junction may be at least partially coated with a metal (Figure 17, column 11, lines 12-17, and Figure 20, column 11, lines 43-54).

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Regarding claim 24, Sato '131 discloses that the junction is at least partially inserted into a material having an annular shape (Figure 20, column 11, lines 43-54).

Regarding claim 25, Sato '131 discloses that the superconducting wires may contain a bismuth oxide superconductor (column 2, lines 5-9).

***Allowable Subject Matter***

6. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach or suggest the wire of claim 17 wherein at least one of the end portions is so worked that the thickness of the at least one end portions is reduced toward the distal end thereof.

***Response to Arguments***

7. Applicant's arguments filed 1/23/2004 have been fully considered but they are not persuasive.

The applicant contends that as currently claimed the regions (of the end points) wherein the filaments are surrounded by and in direct contact with their respective sheaths are necessarily the same regions (of the end points) wherein the first and second surfaces are connected. The examiner respectfully disagrees. The applicant claims that the first oxide wire comprises a first superconducting filament surrounded by and in direct contact with a first sheath at least in a region of said first end portion. The applicant also claims that the second oxide wire comprises a second superconducting filament surrounded by and in direct contact with a second sheath at least in a region of said second end portion. Therefore, as currently claimed, the first end portion

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comprises a region wherein the first superconducting filament is surrounded by and in direct contact with a first sheath, but the claim language clearly does not exclude an additional region in the first end portion wherein the first superconducting filament is not surrounded by and in direct contact with a first sheath. The same goes for the second end portion.

Therefore, when the applicant claims that the first outer surface forms a junction with said second outer surface by connecting said first outer surface to said second outer surface, in a region of said first and second end portions, by a brazing filler metal disposed therebetween, the applicant has failed to claim that the “region” wherein the first and second surfaces are connected is necessarily the same region (of the first end point) wherein the first superconducting filament is surrounded by and in direct contact with a first sheath and the same region (of the second end point) wherein the second superconducting filament is surrounded by and in direct contact with a second sheath.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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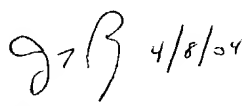
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

atp

 4/8/04  
**ANDREW T. PIZIALI**  
**PATENT EXAMINER**

  
**TERREL MORRIS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**